



Massachusetts Department of Environmental Protection
Bureau of Waste Prevention – Air Quality – NOx Budget Program

BWP AQ 19 Prescribed Plans
BWP AQ 20 Alternative Monitoring Plans
BWP AQ 21 Physical or Operational Plans

Instructions and Supporting Materials

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Introduction

DEP *Permit Applications*, as well as *Instructions & Support Materials*, are available for download from the DEP Web site at mass.gov/dep in two file formats: Microsoft Word and Adobe Acrobat PDF. Either format allows documents to be printed.

Instructions & Support Materials files in Microsoft Word format contain a series of documents that provide guidance on how to prepare a permit application. Although we recommend that you print out the entire package, you may choose to print specific documents by selecting the appropriate page numbers for printing.

Permit Applications in Microsoft Word format must be downloaded separately. Users with Microsoft Word 97 or later may complete these forms electronically.

Permitting packages in Adobe Acrobat PDF format combine *Permit Applications* and *Instructions & Support Materials* in a single document. Adobe Acrobat PDF files may only be viewed and printed without alteration. *Permit Applications* in this format may not be completed electronically.



BWP AQ 19, 20, 21 Permit Fact Sheet

1. What is the purpose of these permits?

The MA DEP regulation 310 CMR 7.27 implementing the NOX Budget Program requires all affected units to determine NOX mass emissions from certified systems during the ozone season (May-September), beginning on May 1, 1999. To ensure that the NOX mass emissions are determined on a consistent basis, the Monitoring Guidance and 310 CMR 7.27 require submission of a monitoring plan, and, for most measurement methodologies, certification test data for NOX Budget Program certification. The MA DEP is responsible for approving the certification testing of all continuous emissions monitoring systems (CEMS) and fuel flowmeter systems, as well as any alternative monitoring systems.

2. What is the three phase structure?

DEP has developed a three phase emission control plan structure with attendant fees. The three phase structure is designed to allow NOX Budget facilities an organized approach to prepare emission control plans. The first phase of the application process is the submittal of a conceptual monitoring plan. Approval allows the applicant to proceed with any planned modifications to the facility, as well as implementing other specifications of the monitoring plan. For a budget unit using a unit specific NOX emission rate, if applicable, be prepared to submit pertinent certification test data previously conducted for DEP review. The second phase of the application process will require detailed information on the monitoring systems and references to certification protocols that will be followed to demonstrate compliance. For budget units subject to 40 CFR 75, this plan is due July 1, 1998. For budget units not subject to 40 CFR 75 and operating before July 1, 1998, this plan is due January 1, 1998. The third phase of the application process is the monitoring systems certification test data submittal. Certification test results conducted in compliance with the protocols established in the second phase, should be submitted within 45 days of completing the actual certification test. The final deadline for all applicable monitoring systems certification is April 30, 1999.

3. What is the description of the three conceptual monitoring plans?

The three conceptual monitoring plan permits are AQ-19, AQ-20, and AQ-21. AQ-19 is intended for a facility that follows a prescribed monitoring system methodology. AQ-20 is intended for a facility that proposes an alternative monitoring system. A proposed alternative monitoring system may involve a system that utilizes an indirect monitoring approach such as parametric monitoring to quantify emission values or direct monitoring which measures emissions using probes or other devices. It entails a Part 75 subpart E procedural demonstration or a comparable demonstration that ensures equivalent mass emissions measurement precision and data reliability. A proposed heat input monitoring system may also fall under AQ-20 when it entails a methodology and/or procedures for fuel sampling, fuel usage measurements, and performance specifications that are not prescribed in the Monitoring Guidance document. AQ-21 is intended for a facility that makes physical or operational modifications to combustion equipment or plans to install NOX controls.

4. How do you fill out applications?

Included in this package is line by line instructions for completing the conceptual monitoring plan table A. This table will request unit information and provide codes for each data field. If you need further instructions, please contact DEP for assistance.

5. What are the application fees?

AQ-19:	\$1,265
AQ-20:	\$2,595
AQ-21:	\$6,655



BWP AQ 19, 20, 21 Permit Fact Sheet

6. What are the timelines?

	AC	T1	Public Comment	Decision
BWP AQ 19	30	30		
BWP AQ 20	30	60	Yes	60
BWP AQ 21	30	90	Yes	60

7. What is the Primary Permit Location? What is the Reserve Copy Location?

Primary Permit Location:
Department of Environmental Protection
_____* Regional Office
Air Quality

Reserve Copy Location:
Not Required

*See "Addresses and Phone Numbers" page included in this package.

8. What is the annual compliance fee?

There is no annual compliance assurance fee specifically for this program.

9. What other monitoring plan requirements should be considered?

The DEP will review these permit applications and specify a date for completion of a detailed monitoring plan which includes drawings, schematics, certification testing procedures, and other technical requirements as set forth in forms developed by EPA.

10. How to avoid a problem in the preparation of a permit application for alternative monitoring systems?

Pay close attention to the instructions where a monitoring methodology not prescribed in the Monitoring Guidance is submitted for review. The DEP will be evaluating whether the monitoring system approach will ensure equivalent NOx emission measurement accuracy and be capable of reporting certified NOx data on a lb/hr basis. When an alternative heat input system is proposed, the instructions lead you to the Monitoring Guidance section J for non-part 75 sources (page 18). Procedurally draft the necessary information according to the given instructions, describing system components, sampling techniques, and all QA/QC elements as indicated. Please note that subsection 8 is only applicable to alternative fuel sampling methodologies for solid fuels. Subsection 9 however, is applicable to an alternative heat input system based on boiler efficiency testing.

11. What are the regulations that apply to these permits? Where can I get copies?

These regulations include, but are not limited to:

- a. Air Quality Regulations, 310 CMR 7.00.
- b. Timely Action Schedule and Fee Provisions, 310 CMR 4.00.

These may be purchased at:

State Bookstore (in State House)
Room 116
Boston, MA 02133
617-727-2834

State House West Bookstore
436 Dwight Street, Room 102
Springfield, MA 01103
413-784-1376



Massachusetts Department of Environmental Protection
Bureau of Waste Prevention – Air Quality – NOx Budget Program

BWP AQ 19, 20, 21 Emission Control Plan/ Conceptual Monitoring Plans Application Completeness Checklist

- ☐ The DEP Transmittal Form is completed.
- ☐ Application form BWP AQ 19, 20, 21 including table A is completed.
- ☐ The application includes all the attachments required for an Alternative Monitoring Methodology as specified in the instructions.
- ☐ The application and the required attachments have been sent to the appropriate regional office with a copy of the DEP Transmittal Form.

To submit the application package:

- ☐ Checklist items have been completed.
- ☐ Send one copy of the application along with one copy of the DEP Transmittal Form to:

Department of Environmental Protection
_____ * Regional Office
Air Quality

*See "Addresses and Phone Numbers" page included in this package.

- ☐ Send fee of:

\$1,265 for BWP AQ19;
\$2,595 for BWP AQ 20;
\$6,655 for BWP AQ 21;

in the form of check or money order made payable to *Commonwealth of Massachusetts*, along with one copy of the DEP Transmittal Form to:

Department of Environmental Protection
P.O. Box 4062
Boston, MA 02211



Addresses and Phone Numbers

DEP Boston
One Winter Street
Boston, MA 02108
Telephone: (617) 292-5500
Fax: (617) 556-1049
TDD: (617) 574-6868

William X. Wall Experiment Station
37 Shattuck Street
Lawrence, MA 01843
Fax: (978) 688-0352
Division of Environmental Analysis
Telephone: (978) 682-5237
Air Quality Surveillance
Telephone: (978) 975-1138

Office of Watershed
Management
627 Main Street
Worcester, MA 01608
Telephone: (508) 792-7470
Fax: (508) 839-3469

Millbury Training Center
Route 20 Millbury, MA 01527
Telephone: (508) 368-5600
Fax: (508) 755-9253
Residuals Sludge Management
Telephone: (508) 368-5606
WWT Operator Certification
Telephone: (508) 368-5698

DEP Western Region
436 Dwight Street
Suite 402
Springfield, MA 01103
Phone: (413) 784-1100
Fax: (413) 784-1149



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DEP Central Region
627 Main Street
Worcester, MA 01608
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Fax: (508) 792-7621
TDD: (508) 767-2788



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West Brookfield
Westford
Westminster
Winchendon
Worcester

DEP Southeast Region
20 Riverside Drive
Lakeville, MA 02347
Phone: (508) 946-2700
Fax: (508) 947-6557
TDD: (508) 946-2795



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Yarmouth

DEP Northeast Region
1 Winter Street
Boston, MA 02108
Phone: 617-654-6500



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Newbury
Newburyport
Newton
Norfolk
North Andover
North Reading
Norwood
Peabody

Quincy
Randolph
Reading
Revere
Rockport
Rowley
Salem
Salisbury
Saugus
Sherborn
Somerville
Stoneham
Sudbury
Swampscott
Tewksbury
Topsfield

Wakefield
Walpole
Waltham
Watertown
Wayland
Wellesley
Wenham
West Newbury
Weston
Westwood
Weymouth
Wilmington
Winchester
Winthrop
Woburn



Massachusetts Department of Environmental Protection
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BWP AQ 19 Prescribed Methodologies

BWP AQ 20 Alternative Monitoring

BWP AQ 21 Physical or Operational Plans

Transmittal Number _____

Facility ID# (if known) _____

Emissions Control Plan/Conceptual Monitoring Plan

A. Facility Information

Important:
When filling out forms on the computer, use only the tab key to move your cursor - do not use the return key.



1. Facility:

Facility Name _____

Street Address _____

City _____

State _____

Zip Code _____

Mailing address (if different from above):

Street/PO Box _____

City _____

State _____

Zip Code _____

2. Facility contact person:

Name _____

Title _____

Telephone Number (including extension) _____

3. Facility owner:

Owner or Corporation Name _____

Telephone Number (including extension) _____

4. Which permit category are you applying for?

☐ BWP AQ 19

☐ BWP AQ 20

☐ BWP AQ 21

B. Certification

"I certify that I have personally examined and am familiar with the information contained in this document and all attachments and that, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including possible fines and imprisonment."

Name of Official _____

Signature _____

Date _____



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Transmittal Number _____

Facility ID# (if known) _____

Emissions Control Plan/Conceptual Monitoring Plan

NOx Budget Conceptual monitoring plans – BWP AQ 19, 20, 21

Table A: Unit Information (Refer to Instructions on following page)

General:

- (1) Short Name _____
- (2) NADB Boiler ID# or Unit ID# _____
- (3) Unit Classification _____
- (4) Unit or Boiler Type _____

Fuels:

- (5) Fuel Type _____
- (6) Primary/Secondary ☐ Primary ☐ Secondary ☐ Primary ☐ Secondary ☐ Primary ☐ Secondary ☐ Primary ☐ Secondary ☐ Primary ☐ Secondary ☐ Primary ☐ Secondary

Controls:

- (7) NOx Controls _____

Monitoring Methodology:

- (8) NOx _____
- (9) HI (Heat Input) _____

Unit Capacity:

- (10) Maximum Hourly HI Capacity _____
- (11) Peaking Unit? ☐ Yes ☐ No ☐ Yes ☐ No ☐ Yes ☐ No ☐ Yes ☐ No ☐ Yes ☐ No ☐ Yes ☐ No ☐ Yes ☐ No



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Transmittal Number

Facility ID# (if known)

Emissions Control Plan/Conceptual Monitoring Plan

NOx Budget Conceptual monitoring plans – BWP AQ 19, 20, 21

Use the following abbreviations when completing Table A:

- | | |
|---|--|
| <p>(2) NADB Boiler ID# or Unit ID#
N = NADB
S = SEISS point number</p> <p>(3) Unit Classification
B = Budget Unit
N = New Unit
NB = Non-Budget Unit
O = Opt-in Unit
R = Retired Unit</p> <p>(4) Unit or Boiler Type
AF = Arch-fired boiler
C = Cyclone boiler
CB = Cell burner boiler
CC = Combined cycle
CFB= Circulating fluidized bed boiler
CT = Combustion turbine
DB = Dry bottom wall-fired boiler
DTF = Dry bottom turbo-fired boiler
DVF= Dry bottom vertically-fired boiler
O = Other
S = Stoker
T = Tangentially-fired
WBF= Wet bottom wall-fired boiler
WBT= Wet bottom turbo-fired boiler
WVF= Wet bottom vertically-fired boiler</p> <p>(5) Fuel Type
C = Coal
D = Diesel
G = Gas
M = All fuels or mixed fuels
O = Other
P = Process gas
S = Non-coal solid fuels</p> | <p>(7) NOx Controls
BOS = burner out-of-service
CM = Combustion Modification/Fuel Reburning
H2O = Water injection
STM = Steam injection
LNB = Low NOx Burner Technology (Dry Bottom Boilers only)
LNBO = LNB with Overfire Air (Dry Bottom Boilers only)
LNC1 = LNB with Close-Coupled OFA (Tangentially fired units only)
LNC2 = LNB with separated OFA (Tangentially fired units only)
LNC3 = LNB with Close-Coupled and Separated OFA (Tangentially fired units only)
LNCB = LNB for Cell Burners
NH3 = Ammonia injection
O = Other
OFA = Overfire Air
SCR = Selective Catalytic Reduction
SNCR = Selective Non-catalytic Reduction</p> <p>(8) NOx
N1(A,B) = NOx Mass Rate (Part 75 or 60 CEMS + stack flow)
N2(A,B) = NOx Emission Rate (Part 75 or 60 CEMS + diluent + f-factor)
*N3 = NOx Emission Rate (Part 75 Alternative – Subpart E)
N4 = NOx Emission Rate (Part 75 Appendix E – Correlation Curves)
N5 = NOx Emission Rate (Default – source specific)
N6 = NOx Emission Rate (Default – generic)
*N7 = NOx lb/hr (state petition)</p> <p>(9) HI
H1 = part 75 stack flow + f-factor + diluent
H2 = Hourly Fuel Flow (NBP or Part 75 Appendix D)
H3 = Long Term Fuel Flow
*H4 = Alternative Methodology
H5 = Unit Specific Maximum
H6 = N/A (NOx lb/hr direct from NOx ppm + stack flow)

* denotes AQ-20 Alternative Plans</p> |
|---|--|